UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20231
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/826,789	04/05/2001	Masanori Suzuki	64753 CCD	4081

7590 05/15/2002

Christopher C. Dunham
c/o Cooper & Dunham LLP
1185 Ave. of the Americas
New York, NY 10036

EXAMINER	
DOTE, JANIS L	
ART UNIT	PAPER NUMBER
1756	5

DATE MAILED: 05/15/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.	Applicant(s)
09/826,789	SUZUKI et al
Examiner	**Group Art Unit**
J. DOTE	1756

—Th MAILING DATE of this communication appears on the cover sheet beneath the correspondence address—

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, such period shall, by default, expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

☒ Responsive to communication(s) filed on 4/5/01, 6/11/01.

☐ This action is **FINAL.**

☐ Since this application is in condition for allowance except for formal matters, **prosecution as to the merits is closed** in accordance with the practice under *Ex parte Quayle,* 1935 C.D. 1 1; 453 O.G. 213.

Disposition of Claims

☒ Claim(s) 1 – 40 is/are pending in the application.

Of the above claim(s) _____ is/are withdrawn from consideration.

☐ Claim(s) _____ is/are allowed.

☒ Claim(s) 1–7, 9–29, 31–38, 40 is/are rejected.

☒ Claim(s) 8, 30, 39 is/are objected to.

☐ Claim(s) _____ are subject to restriction or election requirement

Application Papers

☐ The proposed drawing correction, filed on _____ is ☐ approved ☐ disapproved.

☐ The drawing(s) filed on _____ is/are objected to by the Examiner

☒ The specification is objected to by the Examiner.

☐ The oath or declaration is objected to by the Examiner.

Pri rity under 35 U.S.C. § 119 (a)–(d)

☒ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119 (a)–(d).

☒ All ☐ Some* ☐ None of the:

☒ Certified copies of the priority documents have been received.

☐ Certified copies of the priority documents have been received in Application No. _____.

☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a))

*Certified copies not received: _____.

Attachment(s)

☐ Information Disclosure Statement(s), PTO–1449, Paper No(s). _____

☒ Notice of Ref rence(s) Cited, PTO–892

☐ Notice of Draftsperson's Patent Drawing Review, PTO–948

☐ Interview Summary, PTO–413

☐ Notice of Informal Pat nt Applicati n, PTO–152

☐ Other _____

Office Action Summary

1. A substitute specification including the claims is required pursuant to 37 CFR 1.125(a). Many pages of the specification are not readily legible because the tops or bottoms of the characters have been deleted. For example, see page 1, lines 17 and 23.

A substitute specification filed under 37 CFR 1.125(a) must only contain subject matter from the original specification and any previously entered amendment under 37 CFR 1.121. If the substitute specification contains additional subject matter not of record, the substitute specification must be filed under 37 CFR 1.125(b) and must be accompanied by: 1) a statement that the substitute specification contains no new matter; and 2) a marked-up copy showing the amendments to be made via the substitute specification relative to the specification at the time the substitute specification is filed.

2. This application has been filed with informal drawings which are acceptable for examination purposes only. Formal drawings will be required when the application is allowed.

3. The disclosure is objected to because of the following informalities:

The use of trademarks, e.g., Telfon [sic: TELFON] at page 41, line 22, has been noted in this application. The trademarks should be capitalized wherever they appear and be

accompanied by the generic terminology. This example is not exhaustive. Applicants should review the entire specification for compliance.

Although the use of trademarks is permissible in patent applications, the proprietary nature of the marks should be respected and every effort made to prevent their use in any manner which might adversely affect their validity as trademarks.

Appropriate correction is required.

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 7, 10-22, 29, and 38 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 7, 20, 29, and 38 are indefinite in the phrase "toner has a saturation magnetization of 10 emu/g to 25 emu/g" because it is not clear under what conditions the saturation magnetization was determined (e.g., magnetic field). The instant specification does not disclose the conditions under which the saturation magnetization is determined. As shown in European

Patent 0936507 A2 (EP'507), the value of the saturation magnetization appears to change with the strength of the magnetic field. EP'507 shows that a black magnetic toner has a saturation magnetization of 32.6 emu/g in a magnetic field of 10 kOe, and a saturation magnetization of 25.9 emu/g in a magnetic field of 1 kOe. EP'507, page 17, lines 46 and 47.

Claims 10-12 are indefinite in the phrase "method of forming an image, using a two-component developer by a development unit" (emphasis added) because it is not clear how the method of forming an image uses the two-component developer by a development unit.

Claims 10-12 are also indefinite because they do not recite any positive steps. Therefore, it is not clear what steps are encompassed in the method of forming an image. Claim 10 does not recite any positive steps requiring the use of a two-component developer by a development unit. A claim is indefinite where it merely recites a use without any active positive steps delimiting how this use is actually practiced.

Claims 10-12 are further indefinite in the phrase "development unit which is capable of changing the state of incorporation of said toner by said two-component developer on a developer bearing member by changing the state of the contact of said two-component developer and said toner in accordance with the changes in the concentration of said toner in said two-

component developer on said developer bearing member" because it is not clear of what the development unit is capable. It is also not clear with what the two-component developer is in contact.

Claims 13-22 are indefinite in the phrase "image formation apparatus comprising a development unit, using a two-component developer" (emphasis added) because it is not clear how the apparatus uses the two-component developer.

Claims 13-22 are also indefinite because they do not positively recite that the apparatus contains the two-component developer. Claim 13 does not positively recite the structural relationship between the apparatus and the two-component developer.

Claims 13-22 are further indefinite in the phrase "development unit which is capable of changing the state of incorporation of said toner by said two-component developer on a developer bearing member by changing the state of the contact of said two-component developer and said toner in accordance with the changes in the concentration of said toner in said two-component developer on said developer bearing member" because it is not clear of what the development unit is capable. It is also not clear with what the two-component developer is in contact.

6. 35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

7. Claims 10-12 are rejected under 35 U.S.C. 101 because the claimed recitation of a use, without setting forth any steps involved in the process, results in an improper definition of a process, i.e., results in a claim which is not a proper process claim under 35 U.S.C. 101. See for example *Ex parte Dunki*, 153 USPQ 679 (Bd. App. 1967) and *Clinical Products, Ltd. v. Brenner*, 255 F. Supp. 131, 149 USPQ 475 (D.D.C. 1966).

8. The recitation "toner contains carbon black on the inside thereof, the amount of said carbon black is in the range of 6 wt.% or less" in instant claims 5, 18, 27, and 36 is interpreted to mean that the toner comprising the magnetic material surface-coated with a coloring agent <u>further</u> comprises carbon black in an amount of 6 wt% or less. This definition is consistent with the disclosure at page 26, lines 16-19, of the specification, which discloses that "[t]he best is that no carbon black is contained inside the toner from the viewpoint of the occurrence of the fogging of the background." If applicants do not agree with the examiner' definition, they should clearly

state so and provide antecedent basis in the specification for their definition. The following rejections have been made based on the examiner's definition.

9. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless -
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

11. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the

inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f), or (g) prior art under 35 U.S.C. 103(a).

12. Claims 13-22 are rejected under 35 U.S.C. 102(b) as being anticipated by US 5,805,965 (Tsuda).

Tsuda discloses an imaging apparatus comprising a developing unit. Tsuda's developing unit comprises (1) a developer carrier which coveys a developer consisting of a toner and a magnetic carrier; (2) a first regulating member for regulating the amount of developer carried on the developer carrier by scraping off the developer therefrom; (3) a space for storing the scraped-off developer by the first regulating member; (4) a toner storing section adjoining the space for feeding toner to the developer carrier; and (5) a second regulating member disposed upstream of the first regulating member with respect to the direction which the developer carrier conveys the developer. The second regulating member is spaced from the developer carrier such that when the developer forming a layer on the developer carrier increases in thickness due to an increase in the toner content of the developer, the second regulating member restricts the increment of the developer. "A condition in which the developer

and the toner contact each other is varied in accordance with the variation of the toner content of the developer on the developer carrier to thereby vary a condition in which the developer on the developer carrier takes in the toner." Col. 2, lines 39-56, col. 12, line 8, to col. 13, line 67, and Figs. 9 and 10. Tsuda's developing unit meets the structural limitations of the developing unit disclosed as that of the present invention in the instant specification at page 21, line 16, to page 23, line 13, and at page 46, line 3, to page 54, line 10, and Figs. 1 and 2. The instant specification discloses that such a developing unit has the properties recited in instant claim 13. Thus, Tsuda's developing unit has the properties recited in instant claim 13.

The recitation of "using" the particular two-component developer recited in the instant claims does not limit the imaging apparatus because the claim does not positively recite that the imaging apparatus comprises said particular two-component developer. Furthermore, the functional language "using" the particular two-component developer does not provide a structural limitation to the apparatus. "A claim containing a 'recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus' if the prior art apparatus teaches all the structural limitations of the claim." MPEP 2114.

In addition, the recitation of "using" the particular two-component developer recited in the instant claims does not distinguish the instantly claimed invention from the imaging apparatus disclosed by Tsuda, because the material (i.e., the two-component developer) worked upon by the apparatus does not provide not limit the apparatus claims. "Inclusion of material or article worked upon by a structure being claimed does not impart patentability to the claims." See MPEP § 2115.

13. Claims 1-3 and 5-7 are rejected under 35 U.S.C. 102(b) as being anticipated by European Patent 0936507 A2 (EP'507).

EP'507 discloses a black magnetic toner that is within the compositional limitations recited in the instant claims. The toner comprises 60 parts by weight of a binder resin and 40 parts by weight of magnetic particles surface coated with carbon black. See page 21, lines 10-17, toner example 52 in Table 15 at page 64, and black magnetic particles 28 in Table 12 at page 55. The carbon black surface coated magnetic particles are present in an amount of 40 wt% based on the total weight of the toner. The amount of 40 wt% is within the range of 10 to 40 wt% recited in instant claim 1. The toner has a saturation magnetization of 22.6 emu/g in a magnetic field of 1 KOe, which is within the range of 10 to 25 emu/g recited in instant claim 7. See toner example 52 in Table 15 at page 66. The surface coated magnetic

particles have a average particle size of 0.23 μm, which is within the size range of 0.20 to 0.40 μm recited in instant claim 6. See the black magnetic particles 28 in Table 12.

14. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over EP'507.

EP'507 discloses a black magnetic toner as described in paragraph 13 above, which is incorporated herein by reference.

EP'507 discloses that the black magnetic toner comprising its carbon black surface coated magnetic particles has excellent fluidity and blackness. The toner provides high image quality images and can be used in high speed copiers. Page 3, lines 27-30 and 33-35.

As discussed in paragraph 13 above, toner example 52 comprises 40 wt% of carbon black surface-coated magnetic particles. EP'507 does not exemplify a toner comprising its surface-coated magnetic particles in an amount of 10 to 30 wt% as recited in instant claim 4. However, EP'507 teaches that the amount of binder resin in the black magnetic toner is "usually 50 to 900 parts by weight, preferably 50 to 400 parts by weight based on 100 parts by weight" of the magnetic particles. EP'507, page 12, lines 41-42. Toners comprising binder resin in amounts of 900 and 400 parts by weight comprise the magnetic particles in amounts of 10 wt% and 20 wt%, respectively, based on the total

weight of the toner. The amounts of 10 wt% and 20 wt% are within the range of 10 to 30 wt% recited in instant claim 4.

It would have been obvious for a person having ordinary skill in the art, in view of the teachings of EP'507, to adjust the amount of carbon black surface coated magnetic particles through routine experimentation in EP'507's toner example 52, such that the amount is 10 or 20 wt% based on the total weight of the toner, because that person would have had a reasonable expectation of successfully obtaining a black magnetic toner having the properties disclosed by EP'507.

15. Claims 23-25, 27-29, 32-34, and 36-38 are rejected under 35 U.S.C. 103(a) as being unpatentable over EP'507 combined with Diamond, Handbook of Imaging Materials, pp. 162-165 (Diamond).

Claims 26 and 35 are rejected under 35 U.S.C. 103(a) as being unpatentable over EP'507 combined with Diamond.

EP'507 discloses a black magnetic toner as described in paragraph 13 above, which is incorporated herein by reference.

EP'507 renders obvious a black magnetic toner as described in paragraph 14 above, which is incorporated herein by reference.

EP'507 does not exemplify a toner container comprising its black magnetic toner, or an imaging apparatus comprising a toner container. However, EP'507 discloses that its black magnetic toners can be used as mono-component developers in a copying

machine to provide high quality toned images. Page 2, lines 8-11, and page 3, lines 33-35.

As shown in Diamond, it is well-known in the art of electrophotography, that copying machines that use mono-component developers typically comprise a housing unit comprising a mono-component developer. See Diamond, page 163, line 13-15, and Fig. 4.4.

It would have been obvious for a person having ordinary skill in the art, in view of the teachings of EP'507 and Diamond, to provide an image forming apparatus that typically comprises a container comprising the black magnetic toner disclosed by EP'507 or rendered obvious over the teachings of EP'507, because that person would have had a reasonable expectation of successfully obtaining an image forming apparatus that is capable of providing black toned high quality images as disclosed by EP'507.

16. Claims 1-3, 5, 9, 23-25, 27, 31-34, 36, and 40 are rejected under 35 U.S.C. 103(a) as being unpatentable over Japanese Patent 5-66609 (JP'609) combined with Diamond, Handbook of Imaging Materials, pp. 162-165. See the Japanese Patent Office (JPO) machine-assisted translation of JP'609 for cites.

JP'609 discloses a mono-component developer comprising a magnetic toner comprising 100 parts by weight of a binder resin, 2 parts by weight of a negative charge control monoazo chromium

complex, 3 parts by weight a low-molecular weight polypropylene, and 80 parts by weight of a magnetic particles surface coated with carbon black. See the JPO translation, paragraph 0060, example 1. The toner has a volume-average diameter of 9 μm, which is within the size range of 2.5 to 10 μm recited in instant claim 9. The amount of magnetic particles is 43 wt% based on the total weight of the toner. The magnetic particles are within the compositional limitations recited in instant claim 3.

JP'609 further discloses a copying machine NP-8580 comprising said toner to form toned images. JPO translation, paragraph 0062. As shown in Diamond, it is well-known in the art of electrophotography, that copying machines that use mono-component developers typically comprise a housing unit comprising a mono-component developer. See Diamond, page 163, line 13-15, and Fig. 4.4. Accordingly, JP'609 teaches a toner container comprising its magnetic toner, and an image forming apparatus comprising said toner container.

JP'609 discloses that its magnetic toner provides high density toned images with no fogging for many continuous runs and under different environmental conditions. JPO translation, paragraphs 0017-0021 and 0062.

As discussed above, JP'609's magnetic toner comprises 43 wt% of its magnetic particles surface coated with carbon black. JP'609 does not exemplify a toner comprising said magnetic

particles in an amount of 10 to 40 wt% as recited in instant claim 1. However, JP'609 teaches that the amount of magnetic particles can range from 40 to 150 parts by weight per 100 parts by weigh of magnetic toner. JPO translation, paragraph 0038. The lower limit of 40 wt% is within the range of 10 to 40 wt% recited in instant claim 1.

Accordingly, it would have been obvious for a person having ordinary skill in the art, in view of the teachings of JP'609, to adjust the amount of the carbon black surface-coated magnetic particles through routine experimentation in the toner of JP'609's example 1, such that the amount is 40 wt% based on the total weight of the toner, because that person would have had a reasonable expectation of successfully obtaining a magnetic toner and an image forming apparatus comprising said magnetic toner having the advantages disclosed by JP'609.

17. Claims 6, 28, and 37 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP'609 combined with Diamond, as applied to claim 1 above, combined with further teachings in JP'609.

JP'609 combined with Diamond renders obvious a magnetic toner as described in paragraph 16 above, which is incorporated herein by reference. JP'609 does not disclose the mean particle size of the carbon-black surfaced coated magnetic particles. However, JP'609 teaches that the surface coated magnetic

particles preferably have a mean particle size of 0.05 to 1.0 μm, more preferably of 0.1 to 0.5 μm. JPO translation, paragraph 0028. The range of 0.1 to 0.5 μm overlaps the range of 0.20 to 0.40 μm recited in the instant claims. JP'609 discloses that if the mean particle size is greater than 1.0 μm, the dispersibility of the magnetic particles in the toner "will get worse" and controlling the amount of electrification of the toner becomes difficult. The picture image concentration decreases and the background becomes dirty. JPO translation, paragraph 0028. JP'609 further teaches that if the mean particle size is less than 0.05 μm, the magnetic particles condense and the "environment-proof stability" of the toner decreases. JPO translation, paragraph 0029. Thus, the mean particle size of the carbon black surface-coated magnetic particles is recognized as a result-effective variable, which variation of is within the skill of a person having ordinary skill in the art.

It would have been obvious for a person having ordinary skill in the art, in view of the teachings of JP'609, to adjust the mean particle size of the carbon black surface coated magnetic particles through routine experimentation in JP'609's example 1, such that the mean particle size is within the range of 0.20 to 0.40 μm, because that person would have had a reasonable expectation of successfully obtaining an environmental-stable magnetic toner and an image forming

apparatus comprising said magnetic toner that provide high density toned images with no fogging.

18. Claims 8, 30, and 39 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The prior art of record does not teach or suggest a toner comprising a polyester binder resin having a molecular weight distribution as recited in those instant claims, and containing a THF-insoluble component in an amount of 2 to 40 wt% of said toner.

19. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Janis L. Dote whose telephone number is (703) 308-3625. The examiner can normally be reached Monday through Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. Mark Huff, can be reached on (703) 308-2464. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9311 (Rightfax) for after final faxes, and (703) 872-9310 for other official faxes.

Any inquiry of papers not received regarding this communication or earlier communications, or of a general nature or relating to the status of this application or proceeding should be directed should be directed to the Customer Service Center of Technology Center 1700 whose telephone number is (703) 306-5665.

JLD
May 11, 2002

Janis L. Dote
JANIS L. DOTE
PRIMARY EXAMINER
GROUP ~~1500~~ 1700